



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,697	08/29/2003	Masaki Takai	242012US0	7693
22850	7590	03/20/2006	EXAMINER KEYS, ROSALYND ANN	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			ART UNIT 1621	PAPER NUMBER

DATE MAILED: 03/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/650,697	TAKAI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Rosalynd Keys	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/7/03 &amp; 12/17/03</u> . | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

***Status of Claims***

1. Claims 1-9 are pending.  
Claims 1-9 are rejected.

***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

3. The examiner has considered the information disclosure statements submitted on November 7, 2003 and December 17, 2003.

***Specification***

4. The abstract of the disclosure is objected to because it exceeds 150 words. Correction is required. See MPEP § 608.01(b).
5. The title of the invention is not descriptive of the claimed invention. A new title is required that is clearly indicative of the invention to which the claims are directed. The claims are not directed to an allyl compound produced thereby. Thus, this disclosure should be deleted from the title.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
7. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the relevancy of the phrase "hereinafter the same" is unclear (see page 101,

Art Unit: 1621

line 21). The Examiner is not certain of what limitation this phrase is directed to.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang (WO 02/40491 A1) alone or in view of Hefner, Jr. (US 4,613,703).

Zhang teaches a 3,3'-substituted chiral biaryl phosphinite ligand useful in asymmetric catalysis, which is similar in structure to the claimed compound of formula (I) (see entire disclosure, in particular the abstract, and pages 1, 6, 7, 17, 23, 29, 36, 37, 53 and 54).

Art Unit: 1621

Zhang differs from the instant invention in that Zhang does not limit the 3,3' (ortho-position) substitution to a branched alkyl group. However, Zhang does broadly teach an alkyl group and expressly discloses compounds having a methyl group in the ortho position (see pages 17, 23 and 29). Thus, since the teaching of an alkyl group in the ortho-position, as disclosed by Zhang, would include a branched alkyl, Zhang suggests the claimed ligands.

The Examiner considered the Applicants showing of unexpected results via the comparative examples 1-4. However, these examples are not sufficient to avoid the above rejection because the comparison is not being made with the closest prior art, namely a compound wherein A1 is a diarylene group having an alkyl group at the ortho-position, as taught by Zhang. The comparative examples on pages 86-90 of the Applicants' specification do not contain A1 as a diarylene group.

Zhang further differs from claims 8 and 9 in that Zhang do disclose the use of a phosphonium compound or an ammonium compound in his reaction system.

Hefner, Jr. teaches an allylation reaction which is conducted in the presence of quaternary salt catalyst (see entire disclosure, in particular column 2, line 4 to column 3, line 48). Suitable quaternary salts contain a tetravalent ammonium or phosphonium ion (see column 3, lines 15-33). Hefner, Jr. teaches that the use of the catalyst provides for higher yields of diallylated products and higher conversion of the hydroxyaromatic reactants to the desired products (see column 3, lines 15-22).

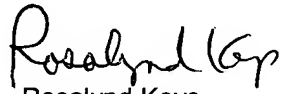
One having ordinary skill in the art at the time the invention was made would have found it obvious to utilize a phosphonium compound or an ammonium compound, as taught by Hefner, Jr., in the allylation reaction of Zhang, in order to achieve higher yields of a diallylated product and higher conversion of a hydroxyaromatic reactant to the desired product.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosalyn Keys whose telephone number is 571-272-0639. The examiner can normally be reached on M-W & F 4-10pm; H 5:30am-5pm; Sat 8am-1pm.

Art Unit: 1621

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Rosalynd Keys  
Primary Examiner  
Art Unit 1621

March 15, 2006